



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,015	10/24/2003	William C. Phillips	1023-292US01	9353
28863	7590	07/25/2005	EXAMINER	
SHUMAKER & SIEFFERT, P. A. 8425 SEASONS PARKWAY SUITE 105 ST. PAUL, MN 55125			HELLER, TAMMIE K	
			ART UNIT	PAPER NUMBER
			3762	

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/693,015	<b>Applicant(s)</b> PHILLIPS ET AL.	
	<b>Examiner</b> Tammie Heller	<b>Art Unit</b> 3762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 10 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-13 and 15-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/2/2004, 6/17/2005</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Stein et al (US 2004/0230246). Stein et al. discloses the same invention including an internal antenna mounted within the programmer housing which defines an aperture (see internal antenna 66 in Figure 9). The battery bay 76 extends into the aperture formed by the antenna loop 66.

Regarding claims 2 and 3, a load is presented to an antenna when batteries are placed within its magnetic field. This load enhances noise immunity of the internal antenna to external electromagnetic interference. From Figure 9 of Stein et al. it is observed that the batteries are located within the magnetic field of the antenna and therefore present a load to the antenna. Therefore, the placement of the batteries in Stein et al. inherently places a load on the internal antenna in order to enhance noise immunity to external electromagnetic interference.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3762

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 15-16, 19-22 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stein et al. Stein et al. discloses a programmer for a medical device comprising a programmer housing, a loop-shaped internal antenna which defines an aperture, and a battery bay formed within the housing which extends into the aperture formed by the antenna. However, Stein et al. does not disclose expressly that the battery bay is aligned substantially concentrically with the aperture. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to concentrically align the battery bay of Stein et al. with the aperture formed by the loop antenna. Applicant has not disclosed that concentrically aligning the battery bay with the aperture formed by the loop antenna provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the battery bay non-concentrically aligned with the aperture formed by the loop antenna because a load is placed on the antenna as long as the battery bay extends at least partially into the aperture. Therefore, it would have been an obvious matter of design choice to modify the programmer of Stein et al. to obtain the invention as specified in claims 19 and 33.

Regarding claims 20 and 21, a load is presented to an antenna when batteries are placed within its magnetic field. This load enhances noise immunity of the internal antenna to external electromagnetic interference. From Figure 9 of Stein et al. it is observed that the batteries are located within the magnetic field of the antenna and

Art Unit: 3762

therefore present a load to the antenna. Therefore, the placement of the batteries in Stein et al. inherently places a load on the internal antenna in order to enhance noise immunity to external electromagnetic interference.

Regarding claims 4 and 22, examiner takes Official Notice that it is well known in the art to use commercially available batteries to power patient programmers so that it is not necessary for the patient to visit their physician when the batteries are low on the programmer. Therefore, it would have been obvious to one of ordinary skill in the art to modify the programmer of Stein et al. to accommodate commercially available batteries such as AAA batteries to offer an additional level of convenience to the patient.

Regarding claims 15 and 31, Stein et al. discloses the invention essentially as claimed but remains silent as to the material from which the antenna is constructed. Examiner takes Official Notice that it is well known in the antenna art to construct an internal antenna from a plastic frame wound with conductive winding in order to enhance the noise immunity of the antenna. The conductive winding is wound such that the direction of the helix determines the type of signal (either right or left-handed) the antenna is able to receive. The antenna consequently only receives the signals for which it is designed and noise from other sources is eliminated. Therefore, it would have been obvious to one of ordinary skill in the antenna art to construct the antenna of Stein et al. from a plastic frame wound with conductive winding in order to further increase the noise immunity of the antenna.

Regarding claims 16 and 32, Stein et al. fails to disclose copper-braided shielding substantially surrounding the plastic frame and conductive winding of the antenna. Examiner takes Official Notice that it is well known in the antenna art to use

Art Unit: 3762

copper-braiding as a shielding mechanism for antennas to shield the electromagnetic field of the antenna and reduce electrical and electromagnetic interference caused by the antenna. Therefore, it would have been obvious to one of ordinary skill in the art to shield the antenna of Stein et al. using copper braiding in order to reduce electrical and electromagnetic interference and reduce antenna loading during transmission and reception.

5. Claims 5-9, 11-12, 18, 23-28, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stein et al. in view of Lebel et al. (U.S. Patent No. 6,648,821). Stein et al. discloses the invention essentially as claimed, including first and second housing members and a first circuit board disposed between the two members. There is an access opening 86 in the first housing member 78 to gain access to the battery bay (see Figure 9). Additionally, the internal antenna 66 of Stein et al. is displaced from the first circuit board and coupled to the first circuit board via an antenna measurement as seen in Figure 9.

However, Stein et al. does not disclose a second circuit board disposed over the first circuit board. Lebel et al. teaches of a communication device to communicate therapy parameters to an implantable medical device which includes a number of circuit elements to control the different elements of the communication device. Lebel et al. discloses that "more or less of the control electronics may be implemented within one or more processor integrated circuits" (see Col. 41, ln. 63-67 and Col. 42, ln. 1-15). According to Lebel et al., additional circuit boards may be added to a programmer for a medical device as is necessary in order for the programmer to perform additional functions. Therefore, it would have been obvious to one of ordinary skill in the art to

Art Unit: 3762

incorporate an additional circuit board into the programmer of Stein et al. in order for the programmer to perform all of the functions desirable for its use.

Regarding claims 8 and 26, the invention is disclosed by Stein et al. in view of Lebel et al. essentially as claimed except both Stein et al. and Lebel et al. remain silent as to the configuration of the antenna and display units within the programmer. Examiner takes Official Notice that it is well known in the art to orient the antenna such that it faces toward the patient's body when the programmer is in use to ensure efficient communication between the programmer and the implantable device. Furthermore, it is well known to orient the display such that it faces away from the patient's body in order to allow the patient to observe information given on the display while the programmer is in use. Therefore, it would have been obvious to one of ordinary skill in the art to modify the antenna and display units of either Stein et al. or Lebel et al. such that the internal antenna is mounted to the first circuit board on a side opposite to the second circuit board, and the display unit is mounted to the second circuit board on a side opposite to the first circuit board in order for the antenna to efficiently communicate with the implantable device and for the patient to view the information contained on the display unit while the programmer is in use.

With respect to claims 9 and 27, as disclosed by Lebel et al., each of the circuit boards contained within the programmer can contain different circuitry to perform the necessary tasks of the programmer. Additionally, Lebel et al. discloses a first circuit board coupled to a second circuit board via an electrical interface (see col. 3, ln. 8-24).

With respect to claims 11, 18, 28 and 34, the device of Lebel et al. can be used with implantable neural stimulators (see col. 2, ln. 29). Additionally, the telemetry

Art Unit: 3762

circuitry of both Stein et al. and Lebel et al. transmits and processes signals via the antenna.

With respect to claims 12 and 29, the device of Lebel et al. has a liquid crystal display (see col. 24, ln. 63 and Figure 2, LCD display 36).

6. Claims 13 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stein et al. in view of Stanton et al. (US Patent No. 6,249,703). Stein et al. discloses the invention essentially as claimed except for the external antenna coupled to the programmer via a cable. Stanton et al. teaches the use of an external antenna 28 that is coupled to the programmer via a cable in order to increase the ease with which patients are able to perform their own programming sessions (see Figure 1). The use of an external antenna coupled to the programmer makes it possible for the programming sessions to occur when the programmer is not located on the implant site. This is desirable for a number of patients who are not able to easily reach the implant site to position the programmer. Therefore, it would have been obvious to one of ordinary skill in the art to combine the external antenna of Stanton et al. with the programmer of Stein et al. in order to increase the ease with which patients can utilize the programmer.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. de Coriolis et al. (U.S. Patent No. 5,674,249), Kurjenheimo et al. (U.S. 2004/0100412), Atwood (U.S. 2004/0125016), Maoz et al. (U.S. 2004/0125029), Chirila (U.S. 2005/0040992), Denker et al. (U.S. 2005/0060011).



Art Unit: 3762

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammie Heller whose telephone number is 571-272-1986. The examiner can normally be reached on M-F 7-4:30, alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert E. Pezzuto can be reached on 571-272-6996. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Rinaldi I. Rada', with a long horizontal flourish extending to the right.

Rinaldi I. Rada  
Supervisory Patent Examiner  
Group 3700

TKH